

Appl. No.: 10/817,269
Amdt. dated 11/10/2005
Reply to Notice of Allowance of November 4, 2005

Amendments to the Claims:

1. (currently amended) A method of changing the formation of an imbricated stream of generally flat flexible sheet-like products comprising the steps of

conveying the products in a predetermined original order in an inverse imbricated formation wherein each product rests at least in part on the trailing product at an initial conveying speed in a conveying direction,

combining a plurality of the conveyed products which define a section of adjacent products, to form an intermediate stack,

conveying the intermediate stack once it has been formed, and/or while it is being formed, such that a gap is formed in relation to subsequent products as seen in the conveying direction,

displacing each product in the intermediate stack so as to form a normal imbricated formation wherein each product rests at least in part on the leading product and wherein the order of the products is reversed from said predetermined original order; and

wherein the step of displacing each product includes moving the first product displaced from the intermediate stack such that it rests at least partially on the last product of a previous intermediate stack.

2. (previously presented) The method of Claim 1 comprising the further step of determining the number of products in the stack, the initial conveying speed, and the length of the intermediate stack measured in the conveying direction, and wherein the intermediate stack, once formed, is conveyed further at a conveying speed which is selected in dependence on the determined number of products in the stack,

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on the determined initial conveying speed, and on the determined length of the intermediate stack measured in the conveying direction such that a gap is formed in relation to subsequent products.

3. (previously presented) The method of Claim 1 wherein the combining step includes braking the first product in the section of products relative to the trailing products in the section so that the trailing products in the section end up located beneath the first product to form an intermediate stack and wherein the step of displacing each product includes removing products from the intermediate stack from beneath.

4. (previously presented) The method of Claim 1 wherein the step of combining the products includes conveying all of the products in the section against a stop to brake the products and so that the leading edges of the products are aligned.

5. (original) The method of Claim 4 wherein the step of conveying the products further includes positioning the products on a first conveying arrangement which defines a path of travel, and wherein the stop is selectively introduced into the path of travel, and so that upon removal of the stop the intermediate stack is conveyed further by the first conveying arrangement to a second conveying arrangement.

6. (original) The method of Claim 5 wherein the stop is controlled such that it is introduced into the path of travel for a predetermined time or until it brakes a predetermined number of products, and then removed.

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7. (cancelled)

8. (previously presented) The method of Claim 1 wherein the step of displacing each product in the intermediate stack includes conveying the intermediate stack upon a bearing surface and against an obstruction which forms a gap with the bearing surface through which only a predetermined number of products can pass.

9. (original) The method of Claim 1 wherein the intermediate stack, once formed, is conveyed further so that the stack overlaps a previously formed intermediate stack.

10. (original) The method of Claim 1 wherein the step of conveying the products includes, prior to the combining step, turning the stream as a whole, so that the initially upwardly oriented sides of the products are oriented downward, and vice-versa.

11. (original) The method of Claim 1 wherein the section of adjacent products which is formed into the intermediate stack comprises between two and ten products.

12.-13. (cancelled)

14. (previously presented) The method of Claim 1 comprising the further step of combining a plurality of the conveyed products which define a section of adjacent products, to form an intermediate stack such that the sides of the products which are directed toward one another in the imbricated formation are also directed toward one another in the intermediate stack.

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15. (currently amended) An apparatus for changing the formation of an imbricated stream of generally flat flexible sheet-like products comprising

a conveyor for conveying the products in a predetermined original order in an imbricated stream at an initial conveying speed along a path of travel,

a stack forming arrangement positioned along the path of travel for combining a plurality of the conveyed products which define a section of adjacent products, to form an intermediate stack,

a feed arrangement by means of which the intermediate stack is conveyed away from the stack forming arrangement such that a gap is formed in relation to subsequent products as seen in the conveying direction;

a stack reducing arrangement having provision for displacing the products in the intermediate stack in a reverse order with respect to the original order; and

a further conveyor for conveying away the products in an imbricated stream.

16. (original) The apparatus of Claim 15 wherein the stack forming arrangement comprises a stop which is mounted for selective movement into and out of the path of travel and so as to brake the initial product of the section of products when moved into the path of travel, and with the stop being either at a fixed location along the path of travel or mounted for movement away from the conveyor at a speed lower than said initial conveying speed.

17. (original) The apparatus of Claim 15 wherein the stack forming arrangement comprises at least one pushing

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element which is moved at a higher speed than the initial conveying speed and by means of which the products in the section are pushed together from behind to form the intermediate stack.

18. (original) The apparatus of Claim 15 wherein the feed arrangement comprises a conveying arrangement which is capable of receiving the intermediate stack from said conveyor and conveying it further.

19. (cancelled)

20. (previously presented) The apparatus of Claim 15 wherein the stack reducing arrangement comprises pushing means mounted for movement relative to the intermediate stack such that each product in the intermediate stack is displaced relative to the adjacent products located in the intermediate stack.

21. (currently amended) A method of changing the formation of an imbricated stream of generally flat flexible sheet-like products comprising the steps of

conveying the products in a predetermined original order in a normal imbricated formation wherein each product rests at least in part on the leading product at an initial conveying speed in a conveying direction;

combining a plurality of the conveyed products which define a section of adjacent products, to form an intermediate stack;

conveying the intermediate stack once it has been formed, and/or while it is being formed, such that a gap is formed in

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relation to subsequent products as seen in the conveying direction;

displacing each product in the intermediate stack so as to form an inverse imbricated formation wherein each product rests at least in part on the trailing product and wherein the order of the products is reversed from said predetermined original order; and

wherein the step of displacing each product includes moving the first product displaced from the intermediate stack such that it is located at least partially beneath the last product of a previous intermediate stack.

22. (previously presented) The method of Claim 21 comprising the further step of determining the number of products in the stack, the initial conveying speed, and the length of the intermediate stack measured in the conveying direction, and wherein the intermediate stack, once formed, is conveyed further at a conveying speed which is selected in dependence on the determined number of products in the stack, on the determined initial conveying speed, and on the determined length of the intermediate stack measured in the conveying direction such that a gap is formed in relation to subsequent products.

23. (previously presented) The method of claim 21 wherein the combining step includes braking the first product in the section of products relative to the trailing products in the section so that the trailing products in the section end up located on the first product to form an intermediate stack and wherein the step of displacing each product includes removing products from the intermediate stack from above.

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24. (previously presented) The method of Claim 21 wherein the step of combining the products includes conveying all of the products in the section against a stop to brake the products and so that the leading edges of the products are aligned.

25. (previously presented) The method of Claim 24 wherein the step of conveying the products further includes positioning the products on a first conveying arrangement which defines a path of travel, and wherein the stop is selectively introduced into the path of travel, and so that upon removal of the stop the intermediate stack is conveyed further by the first conveying arrangement to a second conveying arrangement.

26. (previously presented) The method of Claim 25 wherein the stop is controlled such that it is introduced into the path of travel for a predetermined time or until it brakes a predetermined number of products, and then removed.

27. (previously presented) The method of Claim 21 wherein the intermediate stack, once formed, is conveyed further so that the stack overlaps a previously formed intermediate stack.

28. (previously presented) The method of Claim 21 wherein the step of conveying the products includes, prior to the combining step, turning the stream as a whole, so that the initially upwardly oriented sides of the products are oriented downward, and vice-versa.

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29. (previously presented) The method of Claim 21 wherein the section of adjacent products which is formed into the intermediate stack comprises between two and ten products.

30. (previously presented) The method of Claim 21 comprising the further step of combining a plurality of the conveyed products which define a section of adjacent products, to form an intermediate stack such that the sides of the products which are directed toward one another in the imbricated formation are also directed toward one another in the intermediate stack.